IN THE CLAIMS

Please amend claims 8, 12, 20, 23, 27, 30 and 34 as indicated below.

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (original) A system comprising:

a shared memory; and

a plurality of processing elements coupled to said shared memory, wherein each of said plurality of processing elements comprises a processing unit, a direct memory access controller and a plurality of attached processing units, wherein said direct memory access controller is configured to receive a plurality of commands from a corresponding processing unit to be executed during one or more remote procedure calls, wherein each of said plurality of attached processing units in each of said plurality of processing elements does not interrupt said corresponding processing unit upon completion of each of said one or more remote procedure calls.

Claim 2 (original) The system as recited in claim 1, wherein said direct memory access controller in each of said plurality of processing elements comprises a plurality of first level queues for storing said plurality of commands issued by said corresponding processing unit.

Claim 3 (original) The system as recited in claim 2, wherein each of said plurality of first level queues are configured to store one or more commands of said plurality of commands associated with a different attached processing unit.

Claim 4 (original) The system as recited in claim 2, wherein said plurality of commands comprise a first instruction to copy attached processing unit instructions associated with a particular attached processing unit from said shared memory to said particular attached processing unit, wherein said plurality of commands comprise a

second instruction to copy data associated with said attached processing unit instructions from said shared memory to said particular attached processing unit.

Claim 5 (original) The system as recited in claim 4, wherein said attached processing unit instructions associated with said particular attached processing unit comprise instructions that enable said particular attached processing unit to perform a particular operation on said data associated with said attached processing unit instructions associated with said particular attached processing unit.

Claim 6 (original) The system as recited in claim 5, wherein said plurality of commands comprise a third instruction to copy the results of said particular operation to said shared memory.

Claim 7 (original) The system as recited in claim 4, wherein said first and second instructions to copy attached processing unit instructions and data associated with said attached processing unit instructions are requests to copy one or more lines of memory in said shared memory to said particular attached processing unit.

Claim 8 (currently amended) ~~The system as recited in claim 2,~~ A system comprising:

a shared memory; and

a plurality of processing elements coupled to said shared memory, wherein each of said plurality of processing elements comprises a processing unit, a direct memory access controller and a plurality of attached processing units, wherein said direct memory access controller is configured to receive a plurality of commands from a corresponding processing unit to be executed during one or more remote procedure calls, wherein each of said plurality of attached processing units in each of said plurality of processing elements does not interrupt said corresponding processing unit upon completion of each of said one or more remote procedure calls;

wherein said direct memory access controller in each of said plurality of processing elements comprises a plurality of first level queues for storing said plurality of commands issued by said corresponding processing unit;

wherein said direct memory access controller comprises a second queue, wherein said plurality of commands in said plurality of first queues are merged in said second queue.

Claim 9 (original) The system as recited in claim 8, wherein said direct memory access controller comprises a third queue, wherein said third queue expands said merged plurality of commands stored in said second queue into single line instructions.

Claim 10 (original) The system as recited in claim 9, wherein said direct memory access controller executes said expanded merged plurality of commands stored in said third queue without bank conflicts.

Claim 11 (original) The system as recited in claim 5, wherein said direct memory access controller is configured to poll a status line of each of said plurality of attached processing units to determine if any of said plurality of attached processing units completed its operation during said one or more remote procedure calls.

Claim 12 (currently amended) ~~The system as recited in claim 1,~~ A system comprising:

a shared memory; and

a plurality of processing elements coupled to said shared memory, wherein each of said plurality of processing elements comprises a processing unit, a direct memory access controller and a plurality of attached processing units, wherein said direct memory access controller is configured to receive a plurality of commands from a corresponding processing unit to be executed during one or more remote procedure calls, wherein each of said plurality of attached processing units in each of said plurality of processing elements does not interrupt said corresponding processing unit upon completion of each of said one or more remote procedure calls;

wherein said direct memory access controller is configured to interrupt said corresponding processing unit at a synchronization point, wherein said synchronization point occurs after said one or more remote procedure calls are performed.

Claim 13 (original) A system comprising:

a shared memory; and

a plurality of processing elements coupled to said shared memory, wherein each of said plurality of processing elements comprises a processing unit, a direct memory access controller and a plurality of attached processing units, wherein said direct memory access controller is configured to receive a plurality of commands from a corresponding processing unit to be executed during one or more remote procedure calls, wherein said direct memory access controller is configured to poll a status line of each of said plurality of attached processing units to determine if any of said plurality of attached processing units completed its operation during said one or more remote procedure calls.

Claim 14 (original) The system as recited in claim 13, wherein said direct memory access controller in each of said plurality of processing elements comprises a plurality of first level queues for storing said plurality of commands issued by said corresponding processing unit.

Claim 15 (original) The system as recited in claim 14, wherein each of said plurality of first level queues are configured to store one or more commands of said plurality of commands associated with a different attached processing unit.

Claim 16 (original) The system as recited in claim 14, wherein said plurality of commands comprise a first instruction to copy attached processing unit instructions associated with a particular attached processing unit from said shared memory to said particular attached processing unit, wherein said plurality of commands comprise a second instruction to copy data associated with said attached processing unit instructions from said shared memory to said particular attached processing unit.

Claim 17 (original) The system as recited in claim 16, wherein said attached processing unit instructions associated with said particular attached processing unit comprise instructions that enable said particular attached processing unit to perform a

particular operation on said data associated with said attached processing unit instructions associated with said particular attached processing unit.

Claim 18 (original) The system as recited in claim 17, wherein said plurality of commands comprise a third instruction to copy the results of said particular operation to said shared memory.

Claim 19 (original) The system as recited in claim 16, wherein said first and second instructions to copy attached processing unit instructions and data associated with said attached processing unit instructions are requests to copy one or more lines of memory in said shared memory to said particular attached processing unit.

Claim 20 (currently amended) ~~The system as recited in claim 14,~~ A system comprising:

a shared memory; and

a plurality of processing elements coupled to said shared memory, wherein each of said plurality of processing elements comprises a processing unit, a direct memory access controller and a plurality of attached processing units, wherein said direct memory access controller is configured to receive a plurality of commands from a corresponding processing unit to be executed during one or more remote procedure calls, wherein said direct memory access controller is configured to poll a status line of each of said plurality of attached processing units to determine if any of said plurality of attached processing units completed its operation during said one or more remote procedure calls;

wherein said direct memory access controller in each of said plurality of processing elements comprises a plurality of first level queues for storing said plurality of commands issued by said corresponding processing unit;

wherein said direct memory access controller comprises a second queue, wherein said plurality of commands in said plurality of first queues are merged in said second queue.

Claim 21 (original) The system as recited in claim 20, wherein said direct memory access controller comprises a third queue, wherein said third queue expands said

merged plurality of commands stored in said second queue into single line instructions.

Claim 22 (original) The system as recited in claim 21, wherein said direct memory access controller executes said expanded merged plurality of commands stored in said third queue without bank conflicts.

Claim 23 (currently amended) ~~The system as recited in claim 13,~~ A system comprising:

a shared memory; and

a plurality of processing elements coupled to said shared memory, wherein each of said plurality of processing elements comprises a processing unit, a direct memory access controller and a plurality of attached processing units, wherein said direct memory access controller is configured to receive a plurality of commands from a corresponding processing unit to be executed during one or more remote procedure calls, wherein said direct memory access controller is configured to poll a status line of each of said plurality of attached processing units to determine if any of said plurality of attached processing units completed its operation during said one or more remote procedure calls;

wherein said direct memory access controller is configured to interrupt said corresponding processing unit at a synchronization point, wherein said synchronization point occurs after said one or more remote procedure calls are performed.

Claim 24 (original) A method for executing one or more remote procedure calls comprising the steps of:

issuing a plurality of commands by a processing unit to a direct memory access controller to be executed during one or more remote procedure calls, wherein said plurality of commands comprise a first instruction to copy attached processing unit instructions associated with a particular attached processing unit from a memory to said particular attached processing unit, wherein said plurality of commands comprise a second instruction to copy data associated with said attached processing

unit instructions from said memory to said particular attached processing unit;

issuing to said particular attached processing unit an indication to start a particular operation on said data associated with said particular attached processing unit instructions; and

polling a status line of each of a plurality of attached processing units to determine if any of said plurality of attached processing units completed its particular operation;

wherein said plurality of attached processing units do not interrupt said processing unit upon completion of each of said one or more remote procedure calls.

Claim 25 (original) The method as recited in claim 24, wherein said attached processing unit instructions enable said particular attached processing unit to perform said particular operation.

Claim 26 (original) The method as recited in claim 24, wherein said indication to start said particular operation on said data is issued from said direct memory access controller to said particular attached processing unit.

Claim 27 (currently amended) ~~The method as recited in claim 24 further comprising the step of:~~ A method for executing one or more remote procedure calls comprising the steps of:

issuing a plurality of commands by a processing unit to a direct memory access controller to be executed during one or more remote procedure calls, wherein said plurality of commands comprise a first instruction to copy attached processing unit instructions associated with a particular attached processing unit from a memory to said particular attached processing unit, wherein said plurality of commands comprise a second instruction to copy data associated with said attached processing unit instructions from said memory to said particular attached processing unit;

issuing to said particular attached processing unit an indication to start a particular operation on said data associated with said particular attached processing unit instructions;

polling a status line of each of a plurality of attached processing units to determine if any of said plurality of attached processing units completed its particular operation; and

interrupting said processing unit at a synchronization point, wherein said synchronization point occurs after said one or more remote procedure calls are performed;

wherein said plurality of attached processing units do not interrupt said processing unit upon completion of each of said one or more remote procedure calls.

Claim 28 (original) The method as recited in claim 24, wherein said direct memory access controller comprises a plurality of first level queues for storing said plurality of commands.

Claim 29 (original) The method as recited in claim 27, wherein each of said plurality of first level queues are configured to store one or more commands of said plurality of commands associated with a different attached processing unit.

Claim 30 (currently amended) ~~The method as recited in claim 28,~~ A method for executing one or more remote procedure calls comprising the steps of:

issuing a plurality of commands by a processing unit to a direct memory access controller to be executed during one or more remote procedure calls, wherein said plurality of commands comprise a first instruction to copy attached processing unit instructions associated with a particular attached processing unit from a memory to said particular attached processing unit, wherein said plurality of commands comprise a second instruction to copy data associated with said attached processing unit instructions from said memory to said particular attached processing unit;

issuing to said particular attached processing unit an indication to start a particular operation on said data associated with said particular attached processing unit instructions; and

polling a status line of each of a plurality of attached processing units to determine if any of said plurality of attached processing units completed its particular operation;

wherein said plurality of attached processing units do not interrupt said processing unit upon completion of each of said one or more remote procedure calls, wherein said direct memory access controller comprises a plurality of first level queues for storing said plurality of commands, wherein said direct memory access controller comprises a second queue, wherein said plurality of commands in said plurality of first level queues are merged in said second queue.

Claim 31 (original) The method as recited in claim 24, wherein said first and second instructions to copy attached processing unit instructions and data associated with said attached processing unit instructions are requests to copy one or more lines in said memory to said particular attached processing unit.

Claim 32 (original) The method as recited in claim 30, wherein said direct memory access controller comprises a third queue, wherein said third queue expands said merged plurality of commands stored in said second queue into single line instructions.

Claim 33 (original) The method as recited in claim 32, wherein said direct memory access controller executes said expanded merged plurality of commands stored in said third queue without bank conflicts.

Claim 34 (currently amended) ~~The method as recited in claim 28,~~ A method for executing one or more remote procedure calls comprising the steps of:

issuing a plurality of commands by a processing unit to a direct memory access controller to be executed during one or more remote procedure calls, wherein said plurality of commands comprise a first instruction to copy attached processing unit instructions associated with a particular attached processing unit from a memory to said particular attached processing unit, wherein said plurality of commands comprise a second instruction to copy data associated with said attached processing unit instructions from said memory to said particular attached processing unit;

issuing to said particular attached processing unit an indication to start a particular operation on said data associated with said particular attached processing unit instructions; and

polling a status line of each of a plurality of attached processing units to determine if any of said plurality of attached processing units completed its particular operation;

wherein said plurality of attached processing units do not interrupt said processing unit upon completion of each of said one or more remote procedure calls, wherein said direct memory access controller comprises a plurality of first level queues for storing said plurality of commands, wherein said direct memory access controller comprises a second queue, wherein said plurality of commands in said plurality of first queues are expanded in said second queue.

Claim 35 (original) The method as recited in claim 34, wherein said direct memory access controller comprises a third queue, wherein said third queue merges said expanded plurality of commands stored in said second queue into single line instructions.

Claim 36 (original) The method as recited in claim 35, wherein said direct memory access controller executes said expanded merged plurality of commands stored in said third queue without bank conflicts.